



Our Changing Landscape— Land Use in Wisconsin

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Resources

Whether expressed in one of Henry David Thoreau's compelling essays or articulated in an ordinary citizen's testimony before her town board, land inspires a broad range of human passions. Land, and the way it is used, has been at the center of human conflict throughout history—whether nations wage war for new borders or next-door neighbors argue over a lot line. The way we use land is one of the most significant, long-term environmental issues facing Wisconsin. This edition of *EE News* gives you a foundation for studying land use with your students.

Wisconsin is one of the fastest-growing states in the Midwest. Census data and population projections indicate that the population is stable or growing throughout the state. Our Department of Administration recently concluded that Wisconsin's strong economy, affordable housing, low unemployment rate, solid educational system, and overall high quality of life will continue to contribute to strong population growth at the state, county, and municipal levels. These trends have led to a greater demand for development, construction of new housing, and expansion of municipal services.

Such demands are influenced by the choices people make. Many people work in cities, but prefer to live outside of cities. Efficient transportation and on-site sanitary systems have made the "best of both worlds" possible for many. This is reflected by the rapid growth of suburban and urban fringe areas. New developments in telecommunications technology may further reduce the need to live near urban employment areas, allowing for substantially increased development of rural and suburban areas.

These population and demographic trends exert pressures on land and other natural resources. Land use decisions have profound impacts on wetlands and other habitats, air and water quality, biological diversity, urban lands, community and regional character, local economies, and the costs of infrastructure and services. When growth occurs in haphazard, poorly planned, or unplanned ways, the results are often negative impacts on ecological systems and the human environment.

There are no quick solutions to dealing with these impacts, but an understanding of the relationship between land use decisions and the environment is key to citizens making responsible decisions. The vast majority of land in Wisconsin is, and will continue to be, privately owned. How various levels of government balance an individual's private property rights with the rights of the community and the needs of future generations is an increasingly difficult and complex issue. It is certain, however, that decisions individuals make on how to use their land can have significant impacts on the cost of infrastructure and services, the demand for highways and transportation linkages, the viability of agriculture, the quality of life, and the health of the environment for all Wisconsin residents.

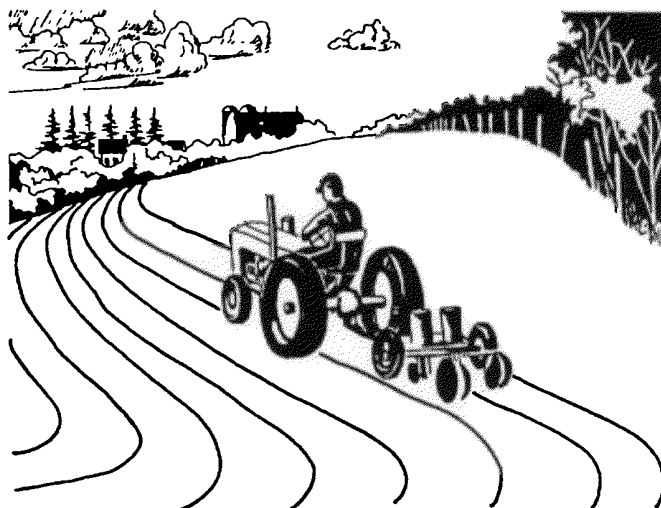
When people talk about land use, you can expect to hear a wide variety of viewpoints and some strongly worded opinions. Understanding these conflicting viewpoints and seeking common ground is an important part of helping shape future landscapes. The resource materials included in the following pages give you and your students an opportunity to explore some of the countless land use issues facing communities across the state. Wisconsin's famous conservationist Aldo Leopold once wrote that, "Conservation means harmony between men and land. When land does well for its owner, and the owner does well by his land; when both end up better, by reason of their partnerships, we have conservation." Perhaps, through environmental education we can reach this state of harmony. ♦

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**"We abuse land
because we regard it
as a commodity
belonging to us.
When we see land
as a community to
which we belong, we
may begin to use it
with love and
respect."**

—Aldo Leopold



Fundamental Concepts of Land Use

Earth has a limited supply of air, water, and land. We all depend on these natural resources and it is up to us to protect and manage them. Society has developed rules intended to ensure wise use of land and other resources. Some people would argue that the current rules aren't working while others think they're working fine.

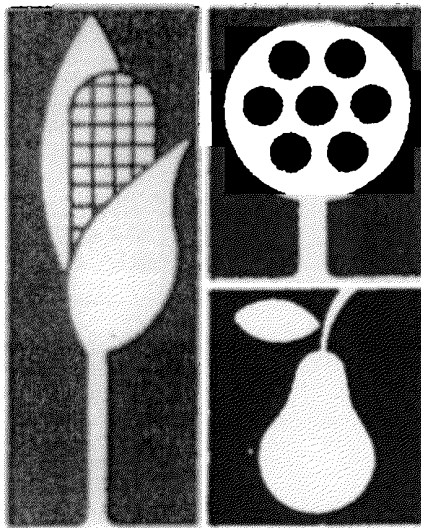
In order to understand land use issues, it's helpful to think of the underlying principles of land use. Some of these principles are described below. While these principles may seem obvious, they form the basis for discussion about land use planning.

1. Land serves as the supporting foundation for the planet's many life forms. Landforms occupy less than one-third of the surface of the Earth. The thin layer of soil on the land's surface is essential to the survival of plants, animals, and people. Land also serves as the basis for most human activity, including farming, manufacturing, and commerce.

2. Uses of land at a particular place on earth may change over time. Some areas that were forest land in 1874 became farmland by 1934 and today are shopping centers. Location greatly influences use. A farm located in rural Richland County is likely to remain agricultural for another 100 years. A farm in urbanizing Washington County may be converted to a residential subdivision within 10 years. The pace of change in the use of land is related to the unique geographic location of each land parcel.

3. Every parcel of land has unique physical characteristics that make it suitable for some uses and less suitable for others. Deserts and places with permanent snow cover are not used much for human activity. Land areas which are watersoaked (wetlands), floodplains, steep slopes and areas within an earthquake zone represent hazards to people who choose to live there. Soil or bedrock conditions determine how much groundwater is available, the stability of building foundations or roads, and the land's capacity to handle sanitary waste.

4. Social, political, economic, and legal forces influence land use decisions. Several factors may explain the use of a particular land area. One of the forces influencing a land user's decision is the economy. Supply of, and demand for products (food, housing) affect land-owner choices. Other forces include government policy and law. For instance, socially acceptable land use behavior is encouraged via property tax incentives



(farmland preservation program). Socially unacceptable land uses are discouraged via regulation (shoreland zoning).

5. If land is used for one purpose, its use for other purposes is limited. While this seems obvious, it is an important concept to keep in mind as we plan for the future. A land parcel may be equally well suited for farming, for a subdivision, or for a factory. Attitudes and values of people vary concerning the "best" use of a particular land parcel. Care must be given to each land use choice because a decision made today may limit the choices of a future landowner and society as a whole.

6. Every use of land has consequences—some of which cannot be reversed. Land uses vary in their intensity. Forestry, farming, a salvage business are examples of land use that vary in intensity and in their potential to cause pollution. Each use has consequences. Also, land once converted to a new use may be essentially irreversible (for instance interstate highway, suburban development).

7. Land may be viewed as both a natural resource deserving of protection and as a commodity in the economy of a community. Land has market value. This value can range from a few dollars to thousands of dollars per acre. An owner may buy and sell land as with any other commodity. But, land also has natural resource "value" to non-owners in the community. The non-owners may be adversely affected by

land use decisions made by the owner. For example, an owner's decision may reduce the ability of the land to support plants and animals or degrade the public air or water supply.

8. Owners of land have certain rights, but they must also accept responsibility when deciding how they will use their land. Land ownership is a cherished right. The United States Constitution prohibits the restricting of certain rights of private landowners. Benefits of land ownership do not include the right to use the land in such ways that another individual or the community is harmed.

9. Government may limit the use of private property if the intent is to prevent harm to another citizen. Freedom and liberty for society are enhanced when rules with respect to property are established that prevent one person from being harmed by the actions of another. Society, through its government, retains important rights to privately owned land—including the right to regulate use. Government exercises this right of control only to prevent socially unacceptable land uses by private owners that would compromise the user rights of other private property owners.

10. Land use planning may not be effective without land use regulation—land use regulation may not be appropriate without planning. Adjacent land owners may engage in uses of land that are not compatible. Conflicts between land owners may be avoided through the application of land use rules by city, village, town, or county officials. Such rules should reflect the long term needs and interests of the entire community. Owners of land are citizens of their communities and they need to help develop a common vision on future land uses in cooperation with non-owners and the leaders in their community. ♦

—Adapted from *Law of the Land Review*, "A Primer on Land and Its Use: Ten Fundamental Concepts" by Donald Last, Extension Natural Resource Policy Specialist, UW-Stevens Point.



Planning and Zoning: Public Tools for Managing Land Uses



by Dreux Watermolen, Wisconsin Department of Natural Resources

Planning and zoning are essential elements in the land use management efforts of local governments. The differences between these tools are not always clear to citizens or government officials, who sometimes use the terms planning and zoning interchangeably. Knowing these differences, however, is crucial to understanding how local governments carry out their responsibilities.

The Wisconsin Legislature first authorized planning and zoning by cities, villages, and counties in the 1920s. These laws were enacted to ensure the health, safety, and welfare of citizens of the state and have been modified several times during the past 70 years. Today, most land use planning and zoning-related activity occurs at the discretion of local governments with minimal or no state level review.

Land Use Plans

Land use plans are general indicators of how the land in a community should be used. Such plans provide a road map for community leaders to take their community from where it is today to where it wants to be in the future. A land use plan also serves as a guideline for local officials who oversee a community's zoning laws. In Wisconsin, cities, villages and some towns may prepare and adopt master plans. Counties are authorized to prepare development plans. Both types of plans are considered land use plans. The statutes that authorize the preparation of plans, however, provide no definition of what constitutes a plan.

A land use plan should reflect broad community interests and values and should be built upon economic growth estimates, population projections, and the condition of natural and historical resources. Plans may consist of a set of goals, standards for achieving those goals, and a map indicating areas to be reserved for various classes of uses. Some plans contain transportation, economic development, sewer and water utility, waste management, outdoor recreation, or green space elements.

Under Wisconsin law, a community's plan is advisory. Local government officials may review such a plan before making a zoning decision, but they are not

required to do so. Furthermore, communities in Wisconsin are not required to develop sound land use plans. Counties are not required to recognize town plans when preparing and adopting a county development plan, even when the plans cover the same geographic area.

Zoning Ordinances

Zoning regulations govern how land can be used in a community. The concept was originally developed to separate land uses that might conflict with one another by restricting specific uses to certain areas of a community. For example, most communities separate factories and industrial sites from school yards and parks. In this way, local officials strive to balance the right of individuals to use their land as they wish with the welfare of the community as a whole.

Zoning is only one of many tools a community can use to implement its land use plan. Zoning maps provide specific records of how the land currently is used or may be used within certain limitations set forth in a zoning ordinance. A community's zoning map may or may not be consistent with maps contained in its land use plan. However, a sound land use plan is a prerequisite for effective zoning decisions.

Zoning ordinances are often controversial because they require community officials to make decisions that affect the private property rights and economic interests of landowners. Zoning decisions can become politically charged. Because of this, local officials sometimes find it difficult to use zoning to effectively implement their community's land use plan. When combined with other growth management tools, however, zoning is a practical tool for communities looking to control their future.

"Takings"

The Fourteenth Amendment of the U.S. Constitution asserts that no state shall "deprive any person of life, liberty, or property, without due process of law." The Fifth Amendment prohibits government from taking private property for public use without fairly compensating the landowner. As they relate to land use plans and zoning, these amendments require that government regulations be justified. Zoning laws are generally believed to be justified if: (1) they advance a legitimate governmental interest; (2) they use reasonable means to achieve this objective; and (3) these means do not cause excessive harm to the individual. Regulations must also leave an owner with some economically beneficial use of the land.

A violation of the Fifth or Fourteenth Amendments is referred to as a "taking." If a court feels that a regulation constitutes a taking, it can strike down the ordinance. Building a zoning ordinance around a land use plan can help protect private property rights and ensure justifiable regulations that benefit an entire community.

Land use plans and zoning ordinances should reflect the changing needs of communities and, as such, are periodically updated. The amendment or repeal of plans and ordinances should come only after a thorough and well publicized review. Plans and ordinances that are flexible, yet provide a solid structure for decision-making, can help a community maintain its character while achieving its long-term vision. ♦

"It is becoming increasingly obvious that American government, both national and local, can no longer ignore what is happening as the suburbs eat endlessly into the countryside. Since the spreading pollution of land follows the roads, those who build the roads must also recognize the responsibility of the consequences."

—Daniel P. Moynihan, U.S. Senator

Activity: Planning the Ideal Community

Grades

6-8

Subjects

math, social studies, language arts, visual arts

Objectives

Students will 1) map the locations of services and resources in their community and 2) create a map of an "ideal" community that includes all the services and resources people need to live there.

Materials

Part A: A map of the area around your school (see Getting Ready), chart paper or overhead transparencies, marking pens or overhead pens.

In this activity, students will explore the elements that make up a human community. They will survey the area around their school, looking for community resources that help them live there. Then, they will plan an ideal community that meets all the needs of its members.

Background

A community includes all the people who live in a place. Different members of a community exchange goods and services so that all people get what they need to live there. A thriving human community includes residential areas; commercial areas; industrial areas; schools; public services (police, fire department, hospitals); transportation systems; utility systems; food distribution systems; recreation areas; and cultural resources (libraries, churches, theaters, museums).

Procedure

Getting Ready—For Part A, decide on the size of the area that students will survey. For example, in urban areas, a two-block area around the school is fine. Obtain or draw a simple map of the survey area. Make a copy for each student. (Or have students copy a sketch from the chalkboard.) Also make an overhead transparency of the map or an enlargement on chart paper.

Part A—Community Living

1. Ask the students what they think a community is. Ask pairs of students to list five places or services they use in their community. Examples might include roads, schools, hospitals, electricity, parks, libraries, police services, or movie theaters. As students share their ideas, list the examples on an overhead transparency or chart paper.

2. Look over the list, and ask students whether anything that people in the community need to live there is missing. Help class members think of services or resources by asking questions such as the following: a) how do people get the food they need? b) Where do they live? c) How do they get around?

Add new ideas to the list, so that the final list includes places to live, work, learn, and play, along with public services, public utilities, and cultural resources.

3. Divide the class into groups of three to six students. Distribute the maps to each student. Explain that groups will survey the area around the school to find the community resources and services they listed in Steps 1 and 2. Divide the list equally among all of the groups. On the back of their map, members of each group should write down the items they will look for. When students find one of the items on their list, they should record on their map the name and location of the item.
4. Take students for a walk around the survey area, allowing time for students to look for and record their findings. Alternatively, you may assign students to survey the area on their way to or from school.
5. Help students compile their findings on the class map. Using that map as a focal point, lead a discussion about students' findings by asking these types of questions:

- ✓ What community services and resources did you find?
- ✓ What seemed to be missing?
- ✓ Does the community have a problem because those things are not present?
- ✓ Would you have found them if you had surveyed a larger area?
- ✓ Were there enough services and resources in the area that you surveyed?
- ✓ Does your survey represent what you would find in other communities? What about the area around your home? What might be different?
- ✓ What did you learn from your survey? Did anything surprise you?
- ✓ What would you like to see changed in the community?

Part B—Community Planning

1. Explain that students will have an opportunity to be community planners and to design an ideal community that meets all the needs of its residents. Ask students to brainstorm a list of the facilities, resources, and services that their ideal community will include.
2. Using the same groups as in Part A, allow students time to plan and map their communities.
3. Ask groups to share their maps with the rest of the class and to describe the features of their design.
4. Use these questions to lead a discussion about the maps and the planning process:
 - ✓ How did your group decide what features to include and where to place them?
 - ✓ Give an example of how your group resolved a disagreement.
 - ✓ How are your ideal communities the same as actual communities? In what ways are they different?
 - ✓ What would it be like to live in each of the ideal communities? What would it be like for a young child? For a store owner? For an animal?
 - ✓ How are the planned communities the same as the community you live in? How are they different?
 - ✓ What did you learn from this activity?

Enrichment

1. Invite a representative from an urban planning office or firm to visit your class. Students can ask the planner about the process in which land-use decisions are made and about the community's goals for the future.
2. Interview residents who have lived in the community for more than 25 years. Ask them how the community has changed and whether they think the changes were for the better. ♦

—Copied with permission, American Forest Foundation, copyright 1993/1994/1995/1996/1997, *Project Learning Tree Environmental Education PreK-8 Activity Guide*. The complete activity guide can be obtained by attending a PLT workshop. For more information, call the National Project Learning Tree office at 202-463-2462

Activity: Making Land Use Decisions

Grades

6-9

Subject

social studies

Objective

To involve students in a waste management decision-making process.

Material

student fact sheet (provided)

Procedure

Explain to students that decisions about waste management are complex because people have different perspectives about the problem. Tell students that they are going to consider an imaginary situation in which a county must decide to change its method of waste management. Hand out the fact sheet that presents three different waste management options. Allow time for students to read and study it. You may want to have them work in small groups to come up with their list of specific issues and concerns. When students have finished ask the following question.

What groups in the community would be affected by the decision?

- ✓ Farmington Residents
- ✓ Busy City Residents
- ✓ County Real Estate Developers
- ✓ Environmental Activists
- ✓ City Merchants
- ✓ Manufacturers
- ✓ City Political Leaders
- ✓ Waste Haulers

Discuss with students the concerns of each of these groups and encourage them to hypothesize what option members of each group might favor. Be sure to include in your discussion such factors as:

1. **Proximity.** People who live close to a proposed site may have concerns about noise, odor, pollution, traffic, or spoiling of the landscape.
2. **Economic Impact.** Developers will be concerned that nearby property values will decrease in value because of the facility. Merchants might worry that the nearness of a facility will make an area less attractive to tourists and people who come from neighboring towns to shop. Manufacturers are interested in ensuring that they can continue to dispose of their waste in the most cost-effective manner possible. To a lesser degree, all county residents will be affected by the rising costs of waste disposal.
3. **Social/Environmental Issues.** Environmental groups will be concerned about the effects of facilities on the surrounding environment, including the loss of park land or open spaces for wildlife. Community members may also worry about the county's image and desirability as a nice place to live, as well as the potential industrial growth that could follow the construction of a major waste management facility. There may also be widespread concern about perceived sanitation problems at a landfill or air pollution resulting from a combustion plant.
4. **Legal and Political Concerns.** Different government agencies will have a variety of concerns, depending upon their areas of responsibility. For example, one agency may have concerns about air quality, another about health, still another about trade and commerce in the county. There are also guidelines to consider in the construction of facilities, and varying costs involved in building and regulating them. Political decision-makers need to balance the needs and desires of all the groups in the community in order to ensure public support.

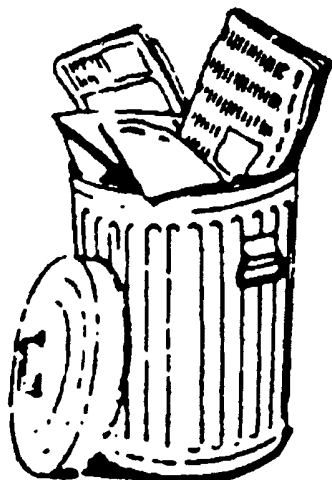
Be sure to introduce into the discussion the idea of long-term versus short-term solutions to the waste problem.

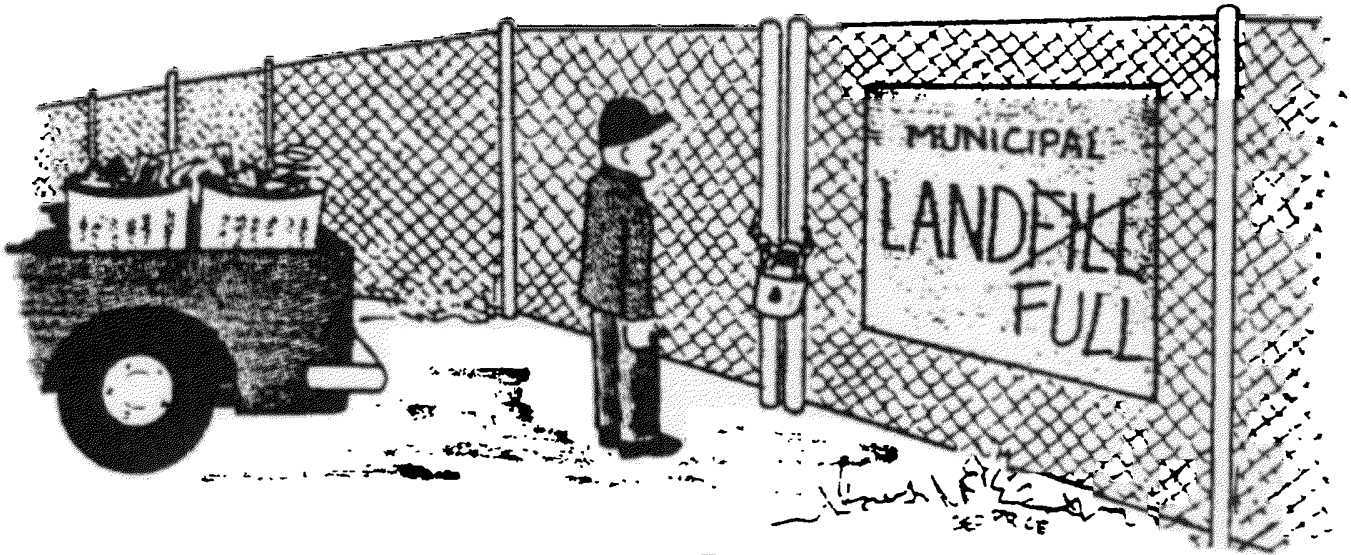
When you feel the issues have been covered satisfactorily, ask students to write down the option that they would choose, along with a paragraph defending their choice. Call on volunteers to present their arguments to the class. Allow for the possibility that some students may try to modify the original options by proposing a combination of management techniques, including source reduction or recycling.

Extension

Have students scan the newspaper for examples of local land use issues. For example, are there any new rural subdivisions, proposed power plants, proposed factory farms, highways, etc., that are causing controversy in your community? What are the issues associated with these decisions? ♦

—From: U S. Environmental Protection Agency 1990. Let's Reduce and Recycle Curriculum for Solid Waste Awareness Washington, DC.





Student Fact Sheet

Approximately 25,000 people live in Pleasant County: 10,000 live in Busy City; 1,200 live in Farmington, and 1,300 live outside in surrounding residential and rural areas. The county has always hauled its trash to nearby Fillup County, but the landfill has reached its capacity and is scheduled to close later this year. Pleasant County, therefore, needs to find an alternative for managing waste. Various proposals to solve the problem are presented below.

1. Pleasant County could construct a major sanitary landfill on farmland adjacent to Farmington. This land would need to be purchased from local growers with federal grant money and would probably take care of the County's waste for the next 40 or 50 years. This is the least expensive option to Pleasant County residents.
2. The county could construct a waste-to-energy combustion plant just outside of Busy City limits. The property to be purchased includes part of a public park that is used for recreation by the city residents. The combustion plant would be more expensive than the landfill but would continue to take care of a majority of the county's trash for the indefinite future.

Some of this money would come from a federal grant; the rest would come from increased garbage collection costs. In addition, some additional costs would be necessary to cover hauling of ash to a landfill in Faraway State. This is the second least expensive option.

3. The county could raise garbage collection fees considerably and haul all of its waste to Faraway State. This option could also include a provision that county residents would pay by weight for the amount of garbage they hauled away each week. Faraway State's landfill has enough capacity to receive Pleasant County's garbage for another 10–15 years. This would be the most expensive option for users of the waste hauling service.

A variety of groups in the community—residents, developers, politicians, merchants, people in business and industry, environmental organizations, health organizations, farmers, waste haulers, construction engineers—all have particular concerns that they would like to see addressed by decision-makers. What do you think some of their concerns are? Make a list of these concerns organized by group. ♦



by Al Stenstrup, Wisconsin Department of Natural Resources

Grades

6-12

Subjects

social studies, science

Objectives

Students will 1) compare historical aerial photographs with current aerial photographs and determine what factors influenced land use decisions; 2) evaluate the impacts of different land uses on an area; 3) consider future changes in land use and the affect on a community.

Material

aerial photographs (one historical and one current for each team of 3-4 students); plastic sheets the same size as the photos; washable markers in various colors

Background

Communities make land use decisions every day. Take a look at areas surrounding large cities, in redeveloping downtown areas of older cities, and in the countryside and you'll see land use changes.

Given the impact that humans have already had and continue to have on the land, a major challenge facing communities, both urban and rural, is how to plan for continued growth. What are the best ways to accommodate growth and minimize the negative impact on the existing community and the natural environment?

The purpose of this activity is to evaluate past land use changes in a community and determine the impact of these changes on the land. Changes in communities can be easily seen by comparing historical aerial photographs to current ones. To make this activity most

Activity: Changing the Land

relevant to your students, try to use photos of your community. Aerial photos can be purchased from most Regional Planning Commission offices. Most locations have photos going back to the 1960s or 1970s. Another source of aerial photos is your county Land Conservation District office.

In looking at land use changes, students will consider what factors may have been involved in making the various land use decisions. Students will try to determine what future land use changes may occur and suggest ways these changes could be implemented to reduce the impact on wildlife habitat, water quality, and quality of life.

Procedure:

1. Divide the class into teams of 3-4 students. Place the plastic sheets over the older aerial photographs. Identify the different land uses on these photos using different colored markers to show each land use. Look for waterways, forests, agriculture, residential areas, industry, parks, and transportation corridors.
2. Place the same plastic sheet over the most recent aerial photo. Identify the changes that have occurred in land use. Students should answer the following questions:
 - a) What were the major changes in land use? What developments occurred? Use markers to show the changes.
 - b) What types of land use were lost? Forests? Agriculture? Why do you think these changes were made?
 - c) What changes occurred in the roadways or railways? Why?
 - d) Was there any commercial development? Parking lots?

- e) What are the effects, both positive and negative that have occurred because of these changes. Are there effects on water quality? Wildlife habitat? Quality of life?

3. Ask each team to identify new areas for community development. Assume your community will require 50 additional single family homes, five apartment buildings, and five new businesses in the next year. (If you're doing this for a large urban area, you may want to increase the number of required new homes, apartments and businesses to better reflect reality or you may want to single out and plan for a certain area of the city.) Have students mark where this development should occur. Discuss why teams targeted certain areas for development. Will transportation systems need to change? List the impacts of these developments on your community.

Extensions

Local Planning. Investigate local zoning ordinances in your community. Who is responsible for land use planning? Who develops the zoning regulations? Invite a local planner to your classroom to talk about their role in community land use planning.

Undeveloped Areas. Identify an area on the aerial photo where no development has occurred. Complete an on-site inventory of the plant and animal life found there.

Community Survey. Develop a survey instrument to administer in the local community. The survey could measure people's responses to community growth, new roads, and other land use issues. ♦

—This activity is an extension of the Project WILD activity, "Dragonfly Pond." For a list of other Project WILD activities that deal with the topic of land use, see the Project WILD/Project Learning Tree pages on pages 21-22 of this issue of EE News.

**"Knowledge of a place—where you are and where you come from—
is intertwined with knowledge of who you are.**

Landscape, in other words, shapes mindscape."

—David Orr



Q. Can You Pass This Test?

Many citizens know little about how land use decisions are made. The quiz below gives you an opportunity to test your knowledge about land use decisions and regulations in Wisconsin.

Answers

1. **T F** Every town in Wisconsin has a land use plan.
 2. **T F** Every county in Wisconsin has a general zoning ordinance.
 3. **T F** The state Department of Natural Resources pays property taxes on land it owns and manages.
 4. **T F** A city government can prohibit any type of land use on any parcel of private property.
 5. **T F** Federal and state permits are required to build in floodplain areas.
 6. **T F** Federal and state permits are required to build in wetlands.
 7. **T F** Local communities must follow the plans developed by Wisconsin's regional planning commissions.
 8. **T F** Most land use decisions are made by state government agencies.
 9. **T F** Landowners are entitled to compensation if they cannot use their land as they want.
 10. **T F** Planning and zoning are pretty much the same thing.
1. False. Under Wisconsin law, counties, cities, villages and some towns are authorized to prepare land use plans, but no units of government are required to prepare plans. Some, but not all, Wisconsin communities have chosen to exercise their planning authority.
 2. False. Under Wisconsin law, any county board may regulate land uses by ordinance. Fifteen Wisconsin counties have not adopted a general zoning ordinance. Does your county have a general zoning ordinance?
 3. True. The DNR makes payments to local governments to replace taxes that would have been paid had the state-owned property remained in private ownership and on the local tax rolls. These payments, known as "aid-in-lieu of taxes," are made to municipalities where the DNR owns land in fee title and where the DNR leases land from the federal government. Different tax rates apply based on when the land was acquired.
 4. False. A city's zoning ordinance can regulate and restrict by ordinance the size of buildings and other structures; the percentage of a lot that may be occupied; the size of yards, courts and other open spaces; the density of population; and the location and use of buildings, structures and land. Such regulations must be for the purposes of assuring the health, safety, and welfare of citizens and must be reasonable.
 5. False. State laws require counties, cities, and villages to adopt reasonable and effective floodplain zoning ordinances to protect individuals, private property and public investments from flooding. Decisions about authorized uses, including building, are made locally. In order for citizens to participate in the Federal Emergency Management Agency's National Flood Insurance Program, their community's ordinance must comply with applicable federal standards. However, federal approvals are not needed to build structures in a floodplain.
 6. True. Federal, state and local regulations affect wetlands. State laws protect wetlands on the beds of navigable waters and wetlands that may be affected by activities such as construction of channels or filling and grading adjacent to navigable waters. The U.S. Army Corps of Engineers regulates the placement of fill in wetlands as well as the draining, excavation, flooding and burning of wetlands if these activities result in conversion of the wetland to another use.
 7. False. Plans developed by regional planning commissions are generally advisory. In some areas of the state, transportation developments and sewer and other utility extensions by local units of government must be consistent with plans administered by regional planning commissions.
 8. False. Most land use decisions are made by individual landowners and developers. Local units of government have the primary responsibilities for regulating land uses. State agencies have authority only in select areas.
 9. False. Landowners are entitled to compensation if a government entity takes their property. Land use regulations, however, must be reasonable and generally must allow some economically beneficial use of the land. See article on page 3 for more information.
 10. False. Planning and zoning are two very different tools that local units of government use to guide land use patterns. See article on page 3 for more information. ♦

Five Simple Land Use Classroom Activities



1. Make a week-long (or month-long) survey of local newspaper and magazines looking for articles on land use (planning, zoning, facility siting, open space preservation, property taxes, etc.). Analyze these articles to identify major land use problems and people's attitudes toward solving them. How did these attitudes affect the solutions? Did some attitudes intensify problems?
2. Compile a list of local, regional, state, and federal agencies with land use responsibilities. Identify those that are making decisions in your community. Contact an official at one of these agencies and ask them to speak to your class about how land use decisions are made in your community.
3. Obtain an aerial photograph of your community (or a part of it). Ask students to identify different land uses seen in the photo. Color code these uses and prepare a land use map of your community. Have students describe their community in writing.
4. Develop a proposed land use plan for the area surrounding your school yard (or your entire community). Consider such things as transportation, parking, open space, recreation, commercial needs, housing needs, etc. Create a wall map of your proposed plan. Solicit public input on your plan. (Ask another class to provide ideas on ways to improve the plan.)
As an alternative, have small groups of students prepare plans for adjoining areas of your community (neighborhoods). Put these plans together to form a land

use plan for your entire community. How do the plans match up where neighborhoods come together? What are some problems that might be encountered if neighboring areas do not consider each other's plans?

5. How much does land cost in your community? Have students investigate the price of property in your area (using classified ads, by talking to a Realtor, etc.). Do different lands with different uses have different values? Have the values changed over time? What has caused some of these changes? How do these values relate to property taxes? ♦



Quotes from Wisconsin Citizens

The following quotes come from people attending a series of land use discussion sessions held throughout Wisconsin and from correspondence received in response to a draft report on land use in Wisconsin. These quotes provide insight into the differing viewpoints of people when it comes to land use.

"When making your decisions, consider the right to own private property is a fundamental American freedom that guarantees personal liberty and promotes economic prosperity." —Sauk City resident

"Sound land use is produced by education and research rather than be regulation." —participant in Platteville discussion session

"...vibrant growth...does not improve the quality of life. The additional noise, congestion, and pollution that it brings is not worth it from my perspective. I would rather live in this...community which is not addicted to growth." —Clintonville resident

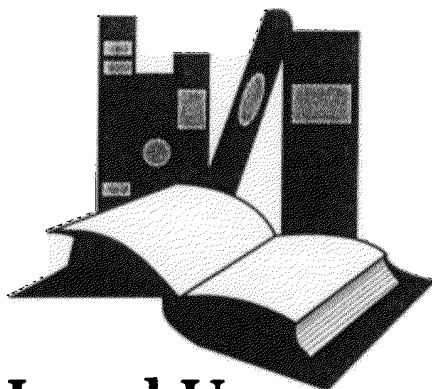
"Local units of government (with isolated exceptions) have traditionally done an extremely poor job of dealing with land use and urban sprawl. Virtually every rezoning request and development proposal, regardless of how ill-conceived, is approved." —Mosinee resident

"Local government does not seem capable of providing adequate controls to assure a sustainable quality of life here." —Door County Chamber of Commerce

"Land is local and land planning must be local." —Private Landowners of Wisconsin

"Put people first, nature second." —participant in public discussion session

Some things will have to be restricted or limited in order to provide for the greatest good for all concerned." —participant in public discussion session. ♦



Land Use Bookshelf

Children's Literature

If You Were a Wild Duck Where Would You Go? by George Mendoza. Stewart, Tabori and Chang, Inc. New York. 1990. 32 p. (grades pre-K—2). A wild duck narrator looks at the past when the environment was bountiful and searches today through the modern environment for a home.

Willa in Wetlands by Peyton Lewis and Rory Chalcraft. National Children's Theater for the Environment. Washington, DC. 1991. (grades pre-K—2). Available from Wetlands Protection Hotline (1-800-528-7828). A creative, funny and engaging play with catchy, upbeat songs. This play highlights the priceless treasures of wetlands and offers practical ways children can help reduce wetland loss by sharing wetlands and their treasures with others.

Life and Death of the Salt Marsh by John and Mildred Teal. Ballantine Books, New York. 274 p. (grades 8—12). A well written and illustrated, accurate, and easy to understand account of East Coast salt marshes. Includes discussion of development of marshes, the plants and animals inhabiting them and their interrelationships, their contributions to human welfare, and the impacts of human civilization on salt marshes.

What Shall We Do With the Land? Choices for America by Laurence Pringle. Crowell, New York. 1981. 152 p. (grades 5-8). Explores conflicts that arise out of our uses of farmlands, pastures, rangelands, forests, deserts, canyons, mountains, barrier islands, and coasts. The book also describes the influence of politics, government agency policies, and individual greed on our actions.

Shenandoah National Park by Ruth Radlauer. Children's Press, Chicago. 1987. 48 p. (grades 3-5). Focuses on the ecology of a "recycled park," much of which was once farmland. The gradual evolution from field and pasture to wilderness provides a demonstration of plant succession as one environment gives way to another.

Toxic Waste: Clean Up or Cover Up? by Malcolm Weiss. Watts, New York. 1984. 83 p. (grades 5-8). Designed to help young people consider the composition of hazardous wastes, the origin of the toxic waste disposal problem, modern techniques for eliminating hazardous wastes, and the responsibilities of various parties in solving toxic waste problems.

And Still the Turtle Watched by Sheila MacGill-Callahan. Dial Books for Young Readers, New York. 1991. 25 p. A turtle carved in rock on a bluff over the Hudson River by Native Americans long ago watches with sadness the changes man brings over the ensuing years.

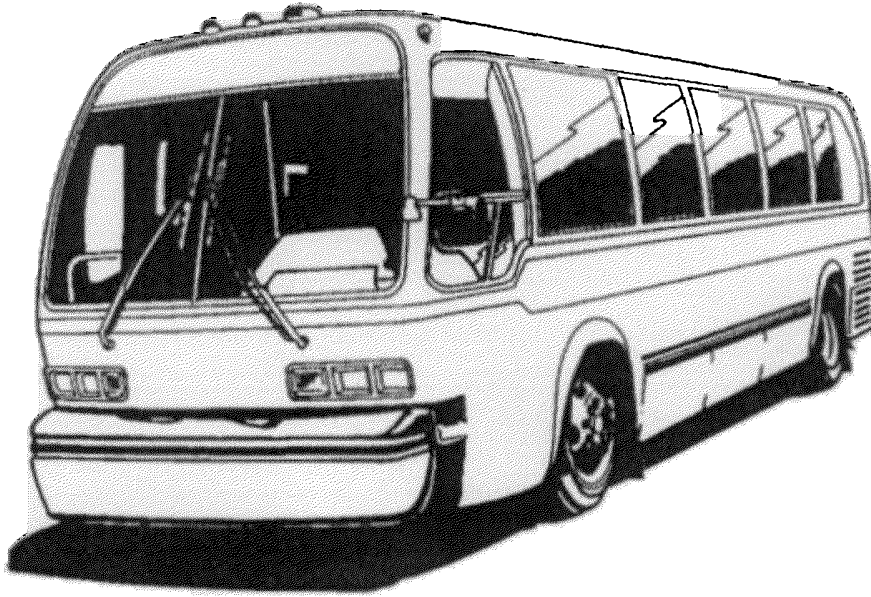
Heron Street by Ann Warren Turner. Harper and Row, New York. 1989. 32 p. Outlines the changes that occur as people settle near a marsh by the sea and herons and other animals are displaced.

General Books and Pamphlets

Land Use in America edited by Henry L. Diamond and Patrick F. Noonan. Island Press, Washington, DC. 1996. Designed to help communities throughout the country accommodate growth in better, more environmentally sound, more fiscally responsible ways. This is an excellent, comprehensive treatment of the many facets of current land use issues.

New Visions for Metropolitan America by Brookings Institute, Washington, DC and Lincoln Institute of Land Policy, Cambridge. 1992. Identifies growth-related issues and examines current efforts to manage growth. The author illustrates how local policies can aggravate problems at the regional level and identifies policies most likely to resolve growth-related problems.





The Geography of Nowhere: The Rise and Decline of America's Man Made Landscape by James Kunstler. Simon and Schuster Trade, New York. 1994. Laments the demise of cities and the rise of suburban areas. Three cities (Detroit, Los Angeles, and Portland) are profiled to illustrate what the author believes is wrong with today's metropolitan areas and to pose possible solutions

Common Groundwork: A Practical Guide to Protecting Rural and Urban Land by Institute for Environmental Education. Chadbourne and Chadbourne, Inc., Chagrin Falls, OH. 1997. A handbook for making land use decisions. This guide describes various land protection tools, how they work, and outlines advantages and disadvantages of each.

Rural by Design: Maintaining Small Town Character by Randall Arendt. APA Planners Press, Chicago. 1994. Conventional planning techniques are not working in many rural and suburbanizing areas. This book advocates creative land use planning techniques for preserving open space and rural character. Includes 38 case studies from 21 states.

The Next American Metropolis by Peter Calthorpe. Princeton Architecture Press, New York. 1993. Challenges planners to create communities that are "environmentally benign, economically efficient, and socially robust." The author explains why communities should integrate natural resources into their design and provides guidelines to help them do so.

Cities without Suburbs by David Rusk. Woodrow Wilson Institute Center for Scholars, Washington, DC. 1993. Proposes metropolitan-area governments or metro-wide requirements for local governments as a means of reversing spatial and social isolation of inner cities. The author is a former mayor who combines an analysis of 40 years of census data with his extensive experience as a public official

Planning America's Communities: Paradise Found? Paradise Lost? by Herbert H. Smith. APA Planner's Press, Chicago. 1991. A lively report card on planning's failures and successes. This book examines the factors that shape local planning in 15 U.S. cities

Takings Law in Plain English by Christopher J. Duerksen and Richard J. Roddewig. American Resources Information Network and Clarion Associates, Inc., Washington, DC. 1994. Available free of charge. 1-800-846-2746. A concise, yet thorough account of current interpretations of takings law. The book provides an overview of takings law, discusses the relationship between real estate economics and the takings issue, and provides a practical guide for responding to the takings issue.

Common Ground: Report of the DNR Land Use Task Force by Dreux J. Watermolen and Shannon M. Fenner. Wisconsin Department of Natural Resources, Madison. 1995. Available free of charge. (608) 266-8931. Outlines a strategic direction for the DNR's land use efforts. The report, which was prepared with considerable public input, discusses who is involved in land use decisions, current population and demographic trends, representative impacts of land use decisions, and the reasons land use issues are difficult to address. The report also includes recommended actions the DNR could pursue

Land Use Views by Dreux J. Watermolen. Wisconsin Department of Natural Resources, Madison. 1995. Available free of charge. (608) 266-8931. This 20 page report summarizes input the DNR received during the development of the report *Common Ground*. It reflects the wide range of views Wisconsin citizens hold relative to land use issues

Newsletters

Common Ground. The Conservation Fund, 1800 N Kent Street, Suite 1120 Arlington, VA 22936 (703) 525-6300. Published bi-monthly.

Land Letter. The Conservation Fund, 1800 N. Kent Street, Suite 1120, Arlington, VA 22209 (703) 525-6300. Published bi-monthly.

Land Lines. The Lincoln Institute of Land Policy, 113 Brattle Street, Cambridge, MA 02138-3400 (617) 661-3016. Published bi-monthly

Law of the Land Review. University of Wisconsin-Extension, University of Wisconsin-Stevens Point, Stevens Point, WI 54481. (715) 346-2386. Published bi-monthly

Growing Smart. A legislative guidebook. The American Planning Association, 122 S. Michigan Avenue, Suite 1600, Chicago, IL 60603-6107 (312) 431-9100

Perspectives on Planning. Dept Urban and Regional Planning, Music Hall, 925 Bascom Mall, University of Wisconsin, Madison, WI 53706 (608) 262-1004. Published sporadically.

Web Resources

American Planning Association:
www.planning.org/

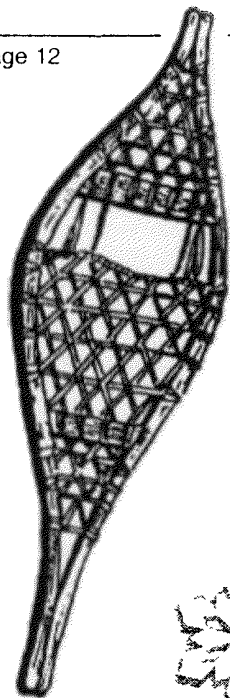
Center for Excellence for Sustainable Development: www.sustainable.doe.gov/

Center for Sustainable Communities:
webster.u.washington.edu/~common/

Sustainable Communities Network:
www.sustainable.org/ ♦



Winter News and Events



EEK! Makes the November "Digital Dozen" List

The Eisenhower National Clearinghouse (ENC) for Mathematics and Science Education has named **EEK!**—Environmental Education for Kids (<http://www.dnr.state.wi.us/eeek/>) one of its monthly "Digital Dozen" Web sites. **EEK!** is the Wisconsin Department of Natural Resources' Web site for children.

EEK!

Each month the ENC chooses a baker's dozen of Web sites to highlight. The sites are chosen based on valuable math and/or science content, teacher appeal, clear navigational aids, and that special something. In addition to being named a "Digital Dozen" site for November, **EEK!** has now been included in ENC's main listing of educational links. You can visit the ENC at <http://www.enc.org>

If you haven't visited the **EEK!** site yet, check it out at <http://www.dnr.state.wi.us/eeek/> ♦

For more information about **EEK!**, contact: Carrie Morgan, Wisconsin Department of Natural Resources, CE/6, P.O. Box 7921, Madison, WI 53707, e-mail: morgac@dnr.state.wi.us

Make Earth Day Today

Wondering how to get your students involved in environmental action projects in your community? For the last 4 years, the Department of Natural Resources has sponsored the Earth Day Project encouraging schools, classrooms, and community groups to take that next step from education to action. This year's theme is "Wisconsin, A State of Biodiversity" focusing on our diverse ecosystems, wildlife species, and people that make Wisconsin such a rich place to live.

Did you know that scientists have identified approximately 1,800 species of native plants and 657 species of native vertebrates in Wisconsin? If we want to have a sustainable ecosystem that will continue to foster and preserve the biological diversity across the state, we need to develop sound land use policies. We depend on the environment, and, unlike other species, we have it in our power to preserve or destroy the global ecosystem. Decisions we make today will have far-reaching impacts on the choices and quality of life available to us in the future. It is our challenge to work with others to conserve this natural heritage.

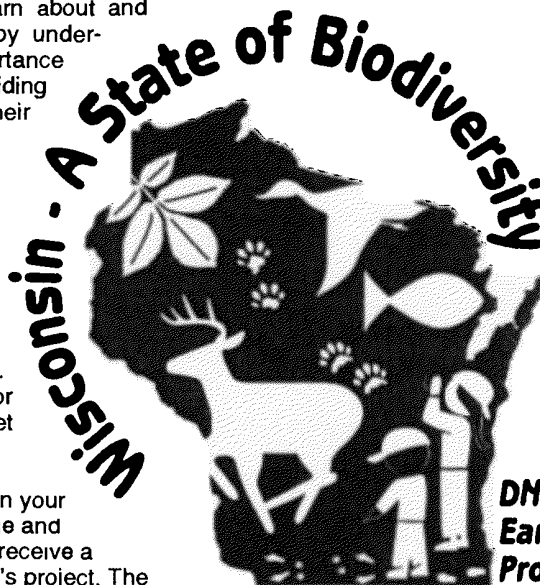
One of last year's Earth Day Projects provides a good example of bringing different people together to help wildlife. First grade students at Juda School in Juda, WI, headed a project involving preschool through high school classes in the study of monarch butterflies and their habitat. At the beginning of the school year, first and twelfth graders, teachers, and parents joined together to search the community for monarch caterpillar eggs on milkweed plants. Some of the caterpillars

were raised and cared for at home. Families and students worked together to document the monarch life cycle changes. Students partnered with researchers at the University of Kansas who tagged the butterflies and released them. Students then made paper butterflies and sent them to schools in Mexico where the butterflies migrate in the winter. In the spring, students in Mexico returned paper butterflies as the monarch migration north began in their country. Students also collected and planted milkweed seeds in their butterfly garden. This is an excellent example of people coming together to help learn about and preserve wildlife by understanding the importance of habitat and providing more habitat at their school.

Don't wait until Earth Day to take action, plan a community action project to protect our environment today with the help of this year's Earth Day Project packet. Your class/school or organization can get involved with this year's Earth Day Project. Just send in your name, school, grade and address and you'll receive a packet for this year's project. The deadline for project registration is March 5, 1999. Start planning now!

To send for a packet, write to: 1999 Earth Day Project, DNR CE/6, P.O. Box 7921, Madison, WI 53707-7921 or e-mail: hutchj@dnr.state.wi.us with your request for a packet. Please include your name and mailing address. ♦

—Support for this program is provided, in part, by a gift from American Honda Motor Co., Inc. In-kind support provided by Olympus Flag & Banner



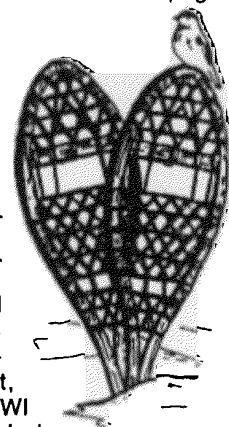
**DNR
Earth Day
Project 1999**



WAAE Winter Workshop— Don't Miss the Fun

January 22-24, 1999

UWSP Treehaven, Tomahawk, WI



This year's winter workshop theme, "Digging In," is intended to inspire you to dig into winter with enthusiasm! Learn more about yourself and about the natural world, both above and below the earth's snow-covered surface. Here's your chance to delve into a gold mine of activities, arts, and ideas. Saturday's keynote speaker, Robert Birmingham, State Archaeologist at the State Historical Society of Wisconsin, will speak on "Digging Into the Past: Lessons for the Future." Sunday, listen to the story of early mining in southwestern Wisconsin from Dave Erickson, the writer and producer of "The Rush for Gray Gold: How the Upper Mississippi Lead Boom Influenced the Creation of Wisconsin."

While you're at the Winter Workshop, dig your feet in the snow during a nighttime snowshoe hike or snow cave building, get down and boogie with rock-and-roll music, or uproot yourself from the indoors to take part in the wacky winter Olym-

pics. Dine outdoors with the "Brutal Gourmet" if you dare. Look for inspiration, educational content and fun in sessions such as: creating birchbark lanterns, making traditional Native pottery, stargazing, and much more. Bring a book to swap with other workshop participants. Be sure to bring some seeds of inspiration to share with other conference participants and a packet of seeds for the program opening.

To receive registration materials for this fun winter workshop, fill out the form

below and send it to: WAAE, 233 Nelson Hall, UW-Stevens Point, Stevens Point, WI 54481. If you need additional information or you have questions about the Winter Workshop, contact Ginny Carlton at waae@uwsp.edu or call one of the conference co-chairs, Susan Gilchrist 608-221-6350 or Janet Hutchens 608-267-2463. ♦

Please send me detailed information on the 1999 WAAE Winter Workshop

Name _____

Organization _____

Address _____

City _____ State _____ Zip _____

Phone _____

Mail this to WAAE, 233 Nelson Hall, UW-Stevens Point, Stevens Point, WI 54481.

WI Environmental Education Board: 1999-2000 Grants Program

The Wisconsin Environmental Education Board (WEEB) is once again sponsoring an environmental education grants program.

Funds Available:

- ✓ \$200,000 general EE
- ✓ \$190,000 forestry education

Eligibility:

- ✓ Corporations (nonstock, nonprofit)
- ✓ Public agencies including schools
- ✓ Public colleges and universities
- ✓ Private elementary, high schools, colleges and universities that meet criteria

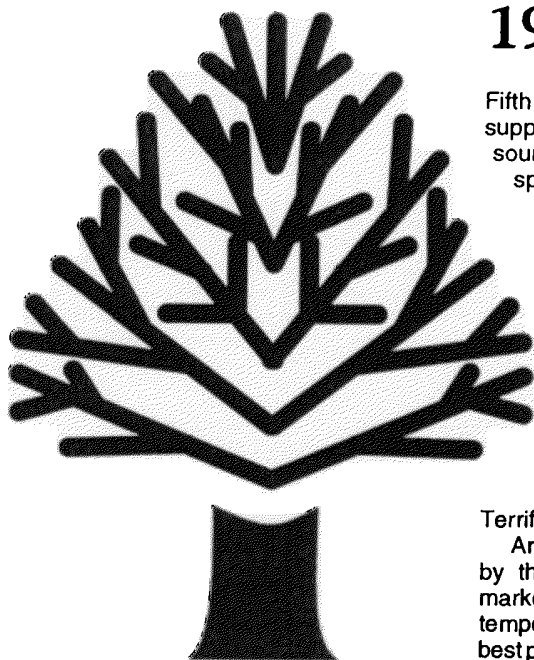
Priorities:

- ✓ Promote broad community EE through the development and implementation of community environmental education projects.
 - ✓ Make new use of existing resources and successful projects.
 - ✓ Promote the implementation of Wisconsin's EE Academic Standards.
- Assist WEEB in meeting statewide environmental education initiatives.

Application Deadline: January 15, 1999

To obtain grant application materials write to:

110 College of Natural Resources
University of Wisconsin—Stevens Point
Stevens Point, WI 54481-3897
(715) 346-3805 ♦



1999 Arbor Day Poster Contest

Fifth grade students—get out your art supplies. The Department of Natural Resources Forestry program is once again sponsoring the annual Arbor Day Poster Contest. The contest is part of a national competition sponsored by the National Arbor Day Foundation. It is the culmination of an Arbor Day curriculum unit that will be sent to all fifth grade teachers. More than 1500 students participated in the 1998 contest with Wisconsin's first place winner, taking top national honors!

This year's theme is "Trees are Terrific....For Shelter and Shade!"

Artwork must be original and signed by the artist. Your students can use marker, crayon, watercolor, ink, acrylic or tempera paint. Brighter colors make the best posters. The poster must be no larger than 14"x18" and no smaller than 9"x12."

Only one poster is accepted from each school, so a school contest is necessary.

Judging guidelines are included in the curriculum package.

Awards will be given to the top three posters in the state and the first place state poster will be forwarded to the national competition. The first, second, and third place winners will be presented with plaques and savings bonds of \$100, \$75, and \$50 respectively and their teachers will be honored with books at an award ceremony in Madison on Arbor Day, 1999. A calendar featuring the top 12 posters will be produced for the year 2000 to share the students' artwork throughout Wisconsin.

Contest and curriculum materials, addressed to the fifth grade teacher were sent to all public and private elementary schools in November. The poster entry deadline is March 1, 1999.

To view the 1998 National Arbor Day winning poster, view *EEK!*, the DNR's Web site for children at <http://www.dnr.state.wi.us/org/caer/ce/EEK/cool/natarbor.htm> ♦

1999 Forest Appreciation Week Writing Contest

"My Favorite Forest Animal or Plant"

Wisconsin's forest life comes in many shapes and sizes, from the small ladybug to the large white pine. This year's fourth grade Forest Appreciation Week Writing Contest asks students to think about the diversity of plants and animals in a forest. Encourage your students to write about a forest animal or plant that they have observed in a natural setting.



Contest Requirements:

- ✓ Fourth grade students only
- ✓ Submit one (1) entry per classroom
- ✓ Any written form, including essay, poetry, or other type of creative writing is acceptable. The entry must be 200 words or less and follow the 1999 theme—"My Favorite Forest Animal or Plant." Students should describe the forest animals and plants that have captured their imagination and piqued their interest in forest wildlife.
- ✓ Writing must be the original work of a student currently in the fourth grade.
- ✓ A participant report form must be attached to your classroom entry. Your entry must be sent to the appropriate CESA district judging team coordinator listed in the 1999 contest information packet. (Contest packets will be mailed to fourth grade teachers in late January.)
- ✓ A finalist will be chosen from each CESA. The 12 CESA finalists will be reviewed by a panel of judges from the Department of Natural Resources Forestry Program.
- ✓ Three state winners will be chosen and recognized for their achievement. The first, second, and third place winners will be presented with savings bonds of \$100, \$75, and \$50 respectively. Prizes are donated by the Wisconsin Woodland Owners Association and the Wisconsin Nursery Association, Inc. Students, their parents and teachers will be honored at a special Arbor Day celebration.
- ✓ Entries must be postmarked by March 5, 1999. ♦

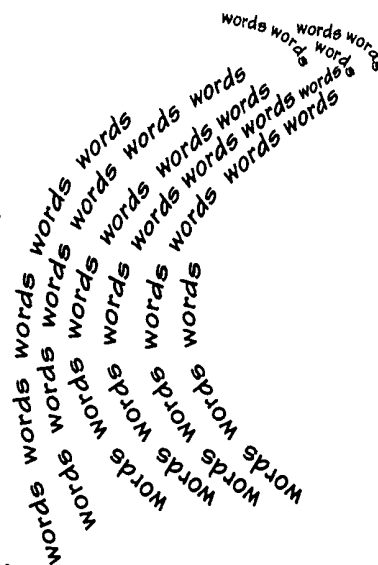
Jump Into the River of Words Environmental Poetry and Art Contest

River of Words (ROW) is an annual poetry and art contest on the theme of watersheds. A watershed is an area of land that catches rain and snow, which drains into a marsh, stream, river, or lake. You and everyone and everything in your watershed are part of the same natural and cultural community. Your life and ideas are shaped, in part, by your watershed. In turn, you influence what happens in your watershed by your everyday activities. River of Words helps children understand and feel a part of their natural surroundings and communities.

Children, ages 5-19, (not in college) are eligible to participate. The eight national winners and one international winner, along with a parent, will win a trip to Washington, D.C. Winners are honored at an award ceremony and luncheon at the Library of Congress, have a VIP tour of the White House, go on a canoe trip and visit many historical sites. All children who enter receive a personalized Watershed Explorer Certificate. Entry deadline is February 15 (postmarked).

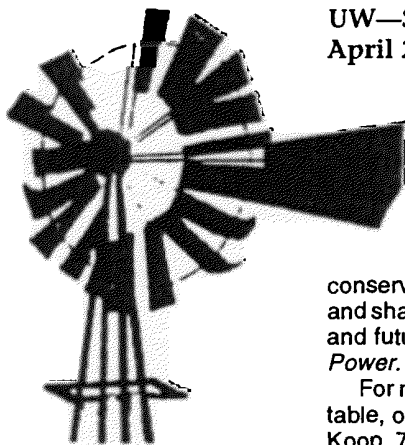
River of Words is co-sponsored by International Rivers Network, a non-profit organization that works to promote "living rivers," and the Library of Congress Center for the Book, the Library's literacy promotion division.

For more information or entry forms, contact: River of Words, P.O. Box 4000-J, Berkeley, CA 94704, 510-433-7020, email: row@irn.org or from their Web site: <http://www.irn.org> ♦



Energy! Experience the Power

1999 High School Environmental and Energy Action Conference
UW—Stevens Point
April 28, 1999



The Eighth Annual High School Environmental Action Conference has been moved from its usual fall date to the spring of 1999. The change of date coincides with a change in title to reflect a new partnership between the Energy Center of Wisconsin and the Wisconsin Center for Environmental Education. The 1999 High School Environmental and Energy Action Conference, *Energy! Experience the Power*, will be held on Wednesday, April 28 at the University of Wisconsin, Stevens Point.

The focus this year is on energy, with presentations on solar energy, fossil fuels, energy conservation, and composting along with many other topics. Join us for an exciting day of learning and sharing ideas, information, and skills to aid in understanding energy and how it affects our lives and future. Student groups are encouraged to present and/or exhibit at *Energy! Experience the Power*. Student involvement is the key to the conference success.

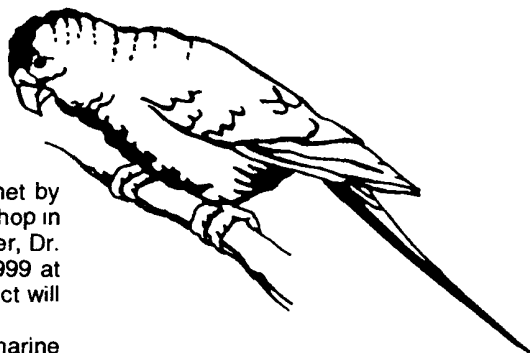
For more information about attending the conference, presenting a workshop, having an exhibit table, or designing this year's logo, contact: conference co-coordinators Emily Ciffone or Bonnie Koop, 715-346-4320, email: eciff451@uwsp.edu or ekoop976@uwsp.edu. ♦

1999 Rain Forest Workshop Scholarship Drawing—Here's Your Chance to go to the Tropics!

Don't miss this opportunity. Call 1-800-669-6806 or email fgatz@earthlink.net by March 1, 1999 to enter a \$1,000 scholarship drawing toward a summer workshop in the rain forest. There are no entry requirements. Join Jason Project researcher, Dr. Meg Lowman and a spirited faculty at the Amazon Workshop (July 9-17, 1999 at \$2,250) and experience a rain forest canopy walkway. The 1999 Jason Project will broadcast Jason X from this site in the Amazon.

Rain Forest Workshops engage teachers in research with ornithologists, marine biologists, canopy researchers, geographers, and biodiversity experts. Instructors include: author/illustrator, Lynne Cherry (The Great Kapok Tree); and award winning photographer, Gary Braasch. Graduate credit is available.

For information about this and other workshops, check out the Rain Forest Workshops Web site: <http://members.aol.com/EdWorkshop> ♦



Options for Wildlife

Educators—are your sixth graders interested in learning more about the issues associated with hunting? The “Options for Wildlife” program helps students use critical thinking skills to make decisions about this sometimes controversial issue.

The “Options for Wildlife” program was developed cooperatively by the Wisconsin Conservation Congress and the DNR. The Conservation Congress is a statutory organization of elected representatives from each county in Wisconsin. The Education and Awards committee of the Conservation Congress is interested in the education of our youth and strives to promote a healthy and safe environment for citizens to enjoy. “Options for Wildlife” is an educational program that helps fulfill this goal.

Volunteer instructors visit your classroom to present “Options for Wildlife.” This 40-minute presentation includes an introduction, 20-minute video, and a question and answer period. Activities from Project WILD, a national environmental program, supplement “Options for Wildlife.” Teachers are asked to use the Project WILD activities before and after the presentation to prepare and satisfy their student's curiosity.

The videotape entitled, “What They Say About Hunting” was produced by the Council for Wildlife Conservation and Education, Inc. It features brief interviews with a number of people: a young boy, adults who live in cities, a farmer, a game warden, a research scientist, and others. Each person has a different point of view on hunting. The video also presents the official statements on hunting of nine leading conservation and preservation groups in America. Four of these groups are against hunting, four are supportive of hunting, and one is not opposed to hunting but questions its place in modern society. The video tries to help students identify the differences between facts and feelings and allows the students to come to their own decision about hunting.

During the last two years, teachers who have participated in “Options for Wildlife” have been asked to provide feedback following the presentation to help make the program better in the future. Evaluations indicate teachers are very pleased with the quality of the presentations, “The presenters do a great job of explaining how we should all be able to at least listen to someone else's opinion. The format encourages students to know facts and then decide for themselves about hunting.”

If this sounds like a program you'd like for your classroom, please contact the “Options for Wildlife” educator in your county for more information. Please note that this program is expanding and that not all counties have volunteer instructors yet. ♦

Bayfield

Ruel Fleming
HC BOX 105
Herbster WI 54844 -717
(715)774-3863

Marvin Paavola
PO BOX 196
Bayfield WI 54814

Brown

Pete Petrouske
1498 Ponderosa Street
Green Bay WI 54313
(414)497-1779

Calumet

Joseph Behnke
241 Bentwood Drive
Brillion 54110
(414)756-3609



Clark

Frank Reith
W11440 Willow Road
Stanley WI 54768
(715)644-3620

Dodge

Jeffery Klatt
137 Charlton Street
Beaver Dam WI 53916
(414)887-1927

Door

David Withers
5058 E Mathey Road
Sturgeon Bay WI 54235

Dunn

Gary Buss
N7194 529th Street
Menomonie WI 54751
(715)235-1043

Forest

Larry Lotto
9442 Hilbert Drive
Armstrong Creek WI 54103
(715)336-2595

Green Lake

Jack Wahlers
430 Broadway Street
Berlin WI 54923
(414)361-0807

Jefferson

Gary Schneck
N4035 Ehrke Road
Fort Atkinson WI 53538
(414)563-9194

Kenosha

Al Dutkiewicz
7612 Cooper Rd
Kenosha WI 53142
(414)697-1937

LaCrosse

Ray Heidel
W8043 Hwy ZN
Onalaska WI 54650
(608)781-7620

Lafayette

Dusty Thompson
10320 Hwy 81
Darlington WI 53530
(608)776-4213

Lincoln

Robert Eisenman
W10710 Red Pine Rd.
Tomahawk WI 54487

Manitowoc

Al Hrudka
11212 Hwy 151
Manitowoc WI 54220
(414)775-4979

Marquette

Larry Gohlke
PO BOX 42
Neshkoro WI 54960
(414)293-4724

Price

Roger Reas
N16568 Lakeshore Drive
Butternut WI 54514
(715)762-4906

Richland

Alan Kidd
325 N Grove Street
Richland Center 53582
(608)647-6096

Shawano

Donald Goers
407 S Washington Street
Shawano WI 54166
(715)524-4917

Sheboygan

Hubert Nett
243 N Main Street
Cedar Grove WI 53013
(414)668-6658

St. Croix

Ron Roertger
PO BOX 22
Star Prairie WI 54026
(715)248-7170

Taylor

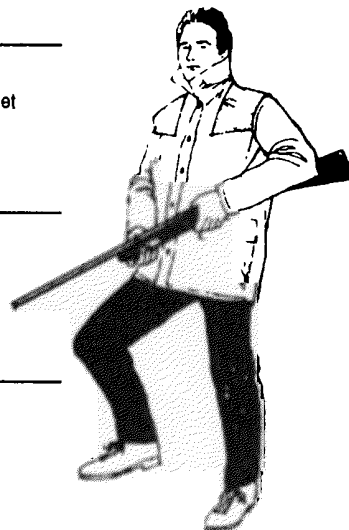
David Lemke
W7836 Perkinstown Ave
Medford WI 54451
(715)785-7573

Washburn

Dale Compeau
W7056 Sunset Ln
Spooner WI 54801
(715)635-3467

Winnebago

James Cahill
1622 Algoma Blvd.
Oshkosh WI 54901
(414)235-6854





News from the Wisconsin Association for Environmental Education 1998 ... It Was a Very Good Year

**7290 County MM
Amherst Junction, WI 54407**

by Sterling Strathe, WAAE Board Chair
As 1998 comes to a close, it's time to look back at the many roads WAAE members traveled together this past year.

In January, 85 adventurous souls joined together to liberate themselves from "Cabin Fever" at the annual Winter Workshop. A great weekend of fun, celebration, learning, and exchange took place. During the same weekend, 26 interested environmental educators participated in the first EE 2000 media clinic in the nation. The purpose of the clinic was to help participants develop skills needed to write articles in support of environmental education. Media plans were developed, which included an Earth Day Week media blitz of local stories on how "EE Works for Wisconsin." From the hard work of WAAE members came Proc-

lamations from Governor Thompson and the Wisconsin Legislature proclaiming Earth Day 1998 as "Environmental Education Works for Wisconsin Day."

In March, three WAAE members represented WAAE at the EE 2000 Leadership Clinic held in San Diego. During an intensive 4 days, our representatives attended sharing sessions and worked on strategies for keeping WAAE a growing, dynamic organization.

In May, 90 educators gathered at the Wausau School Forest for the Eighteenth Annual Adventure in Outdoor Education. In celebration of the return of spring, participants spent the weekend in pursuit of the great outdoors. This fall, more than 200 people attend WAAE's annual fall conference. At this year's conference we celebrated Wisconsin's environmental past, present, and future.

1998 was a year of challenges and creative solutions for the organization.

With the loss of a long-term administrative assistant, the Board was faced with finding solutions to handle the daily work of WAAE. This summer, WAAE established a home and position at UW-Stevens Point. WAAE welcomed Ginny Carlton to this position on July 1. One of the ongoing challenges of the organization has been to produce the "Bulletin." As a creative solution, WAAE has worked to form a partnership with "EE News" to keep you informed and better serve you.

Well, that's a wrap for 1998. Remember, WAAE is here for you. We invite you to become involved in 1999, and play a key role in our ongoing environmental education efforts. ♦

**Mark Your Calendar
& Plan to Attend
19th Annual Spring
Adventure Workshop**

**Wausau School Forest
April 30 - May 2, 1999**

WAAE is Interested in What You Have to Offer!

by Nancy Piraino, Membership Committee Chair

Would you like to become more involved in WAAE and put your special talents to good use? Take a moment to consider how you can take advantage of the opportunity to be a working member of the organization. With your involvement, we can accomplish even more

than we are now, and have more fun doing it.

Don't let the word "working" make it seem like you need to volunteer a set number of hours weekly or monthly. Perhaps you'd like a well-defined short-term involvement. One suggestion is to get involved in planning a conference. Whether it's chairing the whole conference or booking

the entertainment, your time and ideas would be appreciated.

Maybe you'd like a project to work on. The committee chairs listed here can fill you in on the current needs of the organization. Use your skills to their best advantage. If you're good at writing and expressing ideas on paper—help the membership committee work on improving a "new member packet" or call the communications committee and offer to write or edit newsletter articles, press releases, or brochures.

Are you great at talking to people? If so, the networking committee can use your skills as we work with other organizations that share similar goals. Another option is to volunteer to staff the WAAE display at a conference. Having a person to answer questions about our organization is much more effective than just a display.

If a longer-term commitment is what you want, consider joining a committee or subcommittee. We have sev-

eral to choose from. Take your pick!

WAAE Committees

Creative Input

Ward Holz, 715 Rusk Avenue, Sparta, 54656, 608-269-3808

Finance

Christine Turnbull, N2384 Hunt Hill Road, Sarona, 54870, 414-893-5210 or email at mailto:huntill@spacestar.net

Membership

Nancy Piraino at 608-245-1026 or email at nanrose@execpc.com

Awards

Clayton Russell, 1411 Ellis Avenue, Ashland, 54806, 715-261-8453, email: crussell@wheeler.northland.edu

Communications

Paul Wozniak, 920-433-1360, email: paul@foxwolf.org

Elections

David Eagen, 2206 Sommers Avenue, Madison, WI 53704, 608-249-0409

Winter Conference

Susan Gilchrist, 1350 Femrite Drive, Monona, 53716, 608-221-6350

Where committee contacts are not listed or for information or ideas on other volunteer opportunities, contact Sterling Strathe, WAAE Chair, at 715-824-2428, email: ssrathe@uwsp.edu ♦

Tell Your Friends about Environmental Education — It's Good for Wisconsin!

by Paul Wozniak,
Public Communications Committee Chair, WAAE

If you want to introduce your friends or other educators to the concept of what environmental education is and why it's good for Wisconsin, then get a copy of the new WAAE brochure. This fold-out, poster-like brochure was developed by the Public Communications Committee of the WAAE board. It features brief, to-the-point descriptions of environmental education. Associated with the brochure is a pocket-sized card that is as brief as the electronic age requires. (It takes 30-45 seconds to read!)

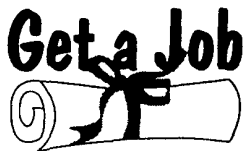
You can get your copy by e-mailing Ginny Carlton, WAAE administrative specialist, at waae@uwsp.edu or by sending your request to WAAE, 233 Nelson Hall, UW-Stevens Point, Stevens Point WI 54481. ♦



EEK! For Teachers

EEK!—Environmental Education for Kids

<http://www.dnr.state.wi.us/eeek/>



This winter on EEK!, your students will find the following stories.

What's New. Forest Wildlife—A clickable poster. View a forest scene, click on the animals and plants, and learn more about them. A hard copy of the poster is in this issue of *EE News*. The poster is divided into two parts on *EEK!* See how many of the forest plants and animals your students can identify.

If your children are interested in cold-weather activities, they can check out "Everything You Always Wanted to Know About Ice-fishing" or participate in the "Winter Scavenger Hunt."

This is your last chance to access some of our Sesquicentennial information. We're finishing up the year with our Wisconsin environmental history quiz. You can also visit EEK! for information on Wisconsin's state symbols. We'll be archiving this information in January. You'll still be able to access the information about our state symbols by going to "What's Old."

Our Earth

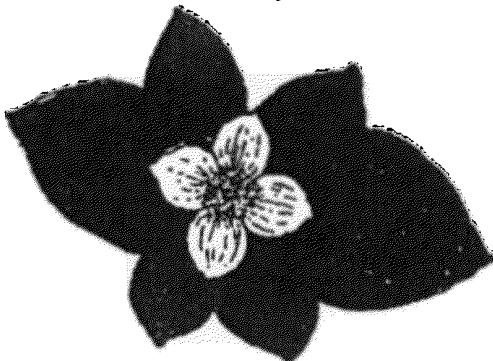
Protecting the Wild Ones— Pine Marten

Learn more about this small, rare member of the weasel family.

Protecting the Wild Ones is a regular feature on endangered species in Wisconsin. Past information on the Karner blue butterfly, timber wolf, peregrine falcon, Blanding's turtle, barn owl, and bald eagle can still be accessed from the "Protecting the Wild Ones" page or by looking under *What's Old*.

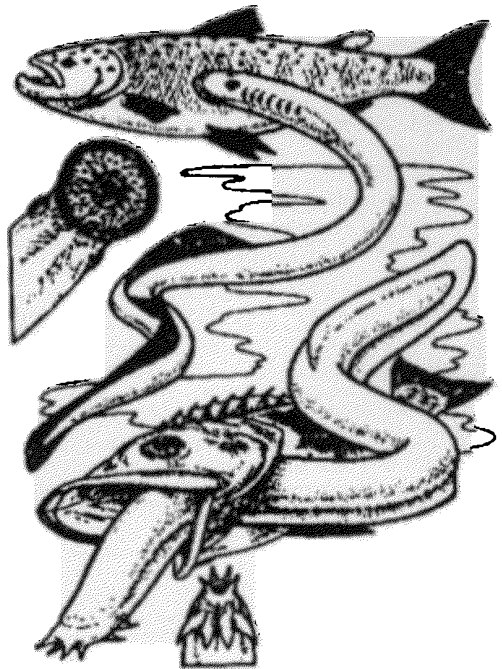
State Symbols

Find out what symbols Wisconsin citizens have selected for our state animal, bird, tree, flower, fish, mineral... the list goes on. This information will be archived in January.



Environmental History Quiz.

Wrap up the Sesquicentennial with our online environmental history quiz.



Alien Invaders—Sea Lamprey

Subject: science, social studies. This alien has been around for awhile. Your students can view great pictures of lamprey in action, learn where this invader came from, and find out how we're trying to keep these critters under control.

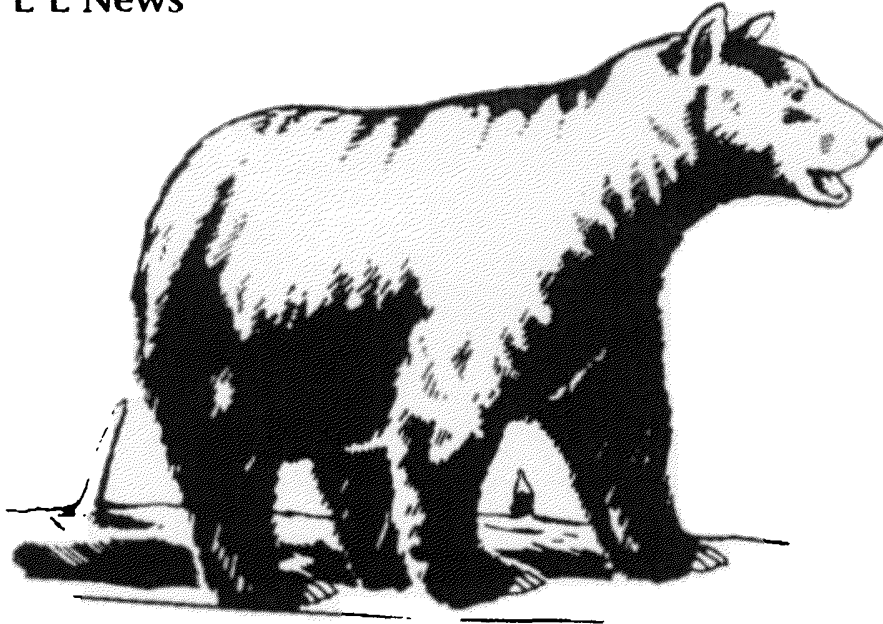
Trash to Treasures for the Holidays

Minimize trash this holiday season with these helpful tips.

Nature Notes

Phenological Calendar

Learn about phenology and help us look for signs of winter. We'll share information collected from around the state.



Your Stuff

Wanted: kid's artwork or writings about nature. Do you know some kids that love to write or draw about nature? EEK! would like to feature their creativity online in this section.

Clickable Calendar

Check out this clickable calendar of events and seasonal changes.

The Riddler

Send your students online to see if they can answer our riddle. The answer is found somewhere in the site. New riddles are posted every month.

Coming Soon

- ✓ Snowflake Identification
- ✓ Winter Star Gazing
- ✓ Winter Wildlife Tracking
- ✓ Land Use On-Line Quiz

Teacher Pages

Check out the new look for the teacher pages! We've organized the site into different sections in order to make it easier for you to find information.

Environmental Education Board Grants are due on January 15. Visit "Cool Stuff" on the Teacher Pages for more information about this grant program.

For the most up-to-date information and activities about EEK!, visit the teacher pages at the EEK! site. And, don't forget to fill out our survey and let us know how you and your students like the site. Remember, we're always looking for student artwork/stories. You can send artwork to: Carrie Morgan, CE/6, DNR, P.O. Box 7921, Madison, WI 53707.

If you have any comments about the site, e-mail: morgac@dnr.state.wi.us ♦

—EEK! has been funded this year in part by a grant from the Wisconsin Environmental Education Board.

Critter Corner—Black Bear

The black bear is thriving in Wisconsin. In this month's critter corner, you can learn more about black bears, their habits, and distribution in Wisconsin.

Ice On, Ice Off

Winter is here. Have your local lakes iced over yet? Help us keep track of ice-over conditions around the state.

The Hibernation Game

Find out which animals hibernate and which ones just rest during the winter. Find out where animals go during the cold winter months, how they survive, and how they protect themselves from Wisconsin's severe weather.

Winter Bird Feeding

You and your students can make simple bird feeders with the information found in this section. You'll also find out what our feathered friends prefer for food.

Get a Job— Career Information

When I Grow Up?

Here's a chance for students to express their interest in careers in the natural resources field and let the EEK! staff know what kinds of careers to feature in Get a Job.

Meet the EEK! Staff

Have you or your students ever wondered who's behind the screens on EEK? Here's a chance to meet the staff that write the stories and design the web pages that help kids learn about Wisconsin's environment.

Your students can still visit some of the careers previously listed on EEK!

- ✓ "Life as a Wildlife Biologist"
- ✓ "Diary of a Park Ranger"
- ✓ "A Tale of Two Wardens"

Cool Stuff

Explore Your World

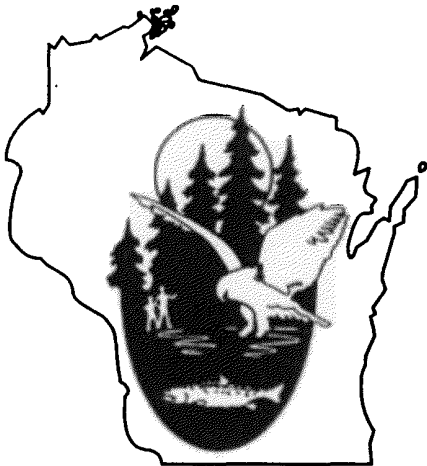
A list of environmental events and activities for kids throughout the winter months to help get them outdoors for fun at state parks, forests, trails, and other great spots.

Creepy Critter Contest Winners

Wow! Did we get some creepy stories. Visit the Creepy Critter Contest Winners page for some creepy stories and artwork. Thanks to all the students that participated in the contest.

Letters to EEK!

See what kids are asking EEK! and find answers to the questions they pose.



Project WILD/Project Learning Tree

P.O. Box 7921
Madison, WI 53707

Al Stenstrup
State Coordinator
608-264-6282
stensa@dnr.state.wi.us

Janet Hutchens
Assistant State Coordinator
608-267-2463
hutchj@dnr.state.wi.us

Betty Prescott
Program Assistant
608-264-6280
prescb@dnr.state.wi.us

Project WILD & Project Learning Tree Land Use Activities

To complement the land use information in this issue of *EE News*, here are some suggested WILD/PLT activities you can use with your students to help them understand the complexity of land use issues:

Aquatic WILD

Riparian Retreat

In this activity, awareness of a riparian zone is created through the use of a simulated field trip and art work. Students describe habitat characteristics of riparian areas, identify animals that inhabit them, and state the importance of riparian areas to wildlife and humans. Students can also generate a list of things that can be done to protect riparian areas

Migration Headaches

Students role play migrating water birds traveling between nesting habitats and wintering grounds that are subject to hazards at either end of the migration path as well as along the way. Students will be able to describe



Project WILD

Urban Nature Search

Land use decisions determine available wildlife habitat. In this activity, students go outside to observe an environment and use a questionnaire to assist in gathering data. As a follow up, students discuss ways in which people have altered the environment and ways in which natural forces have shaped the human environment.

Riparian Zone

In this activity, students simulate a board of commissioners hearing. Students identify and describe factors frequently involved in land use planning and evaluate the possible consequences for wildlife and other elements of the environment — including people — where land use planning does not take place.

Shrinking Habitat

Loss of habitat is generally considered to be the most critical problem facing wildlife today. In this lesson, students simulate a process of land development in a physically involving activity. Students describe some effects of human development of land areas on plants and animals previously living in the area.

Cabin Conflict

Today, many conflicts arise concerning land use. Through this role-playing activity, students describe possible circumstances in which public and private interests may be in conflict and evaluate points of view which arise under such circumstances.

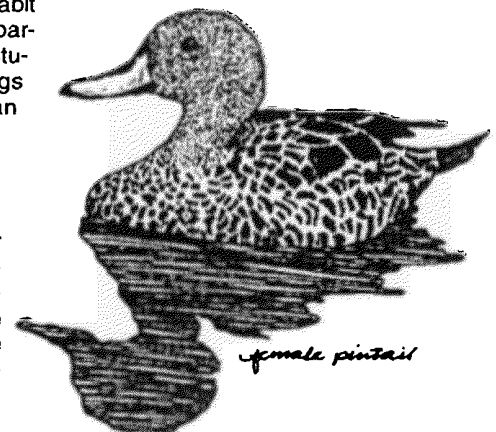
the effects of habitat loss and degradation on populations of migrating water birds and make inferences about the importance of suitable habitat.

Dragonfly Pond

In this activity students create a collage of human land use activities around an image of a pond. The idea is to have students evaluate the effects of different kinds of land use on wetland habitats and discuss and evaluate lifestyle changes to minimize damaging effects on natural habitats.

Watershed

In this lesson, students measure the area of a small watershed, calculate the amount of water it receives each year, and discuss the varied roles the watershed plays in human and wildlife habitat. A noted scientist once remarked that, "Human activities speed up the flow of water while nature slows it down." Students can investigate if this is true in their watershed and identify factors that contribute to this.



Project Learning Tree

Loving it Too Much

National parks are treasures of any nation. Yet national parks today struggle with serious dilemmas, often related to activities outside park boundaries. Students graph data related to population and park use in this activity. By looking at problems in America's national parks, students can begin grappling with some tough land use issues that affect parks locally and globally.

On the Move

In this activity, students examine transportation systems. Students compare various transportation methods, describe the transportation systems in their communities, and design or propose practical and efficient systems for the future.

We Can Work it Out

When certain people decide how to use a particular piece of land, the decision can involve and affect many people in many ways. Therefore, groups must establish processes for planning and resolving conflicts about land use. In this activity, students develop a plan to address a land use issue.

Watch on Wetlands

There are multiple, and sometimes confusing, definitions of wetlands. If wetlands could be defined simply, wetland issues and legislation would be less muddy. In this activity, students learn more about wetlands and about how land use decisions and legislation affect these areas. ♦

Paper Makes Wisconsin Great

This new educational resource, produced by the Wisconsin Paper Council, provides a multi-disciplinary educational program for children in the upper elementary grades. This resource provides information on the papermaking process, highlights the socioeconomic contributions and history of the industry, and demonstrates the industry's commitment to environmental stewardship. Paper Makes Wisconsin Great is presented in a self-contained, three-ring binder format including eight student activities, six facts sheets with background on key paper industry topics, a glossary of industry terms, a sampler of papermaking materi-

als including: wood chips, pulp, paper machine wire and felt; a poster showing the pulp and paper manufacturing process, and space to insert your own favorite paper related materials. The binder also holds an educational videotape with three segments: The Magic of Paper, The Business of Paper and Paper and the Environment. This educational resource is available for \$10 from the Wisconsin Paper Council. Send inquiries or a check for \$10 to: Wisconsin Paper Council, P.O. Box 718, Neenah WI 54957-0718. ♦

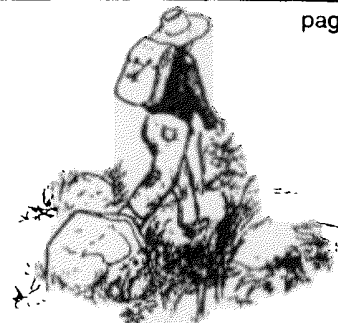
Facilitator Feature— Dave Kuckuk

Imagine backpacking 1000 miles along Wisconsin's Ice Age Trail for 6 weeks from St. Croix Falls to Door County with your favorite canine companion. Sounds great for a vacation, but now imagine doing it as part of your job! Dave Kuckuk, Director of Ellwood H. May Environmental Park and Project Learning Tree/Project WILD facilitator, did just that as a part of the *Securing the Environmental Vision* capital/endowment campaign called "Maywood Cyber Hike." The campaign goal is \$750,000 received through pledges. The money will build program facilities at Maywood in Sheboygan, WI. Dave hiked 1,000 miles between September 12 and October 24 and kept in contact with the Ecology Center Base Camp through daily cellular phone contact so that his progress could be tracked by school children and the public on a Web site, the radio, and through the press. This effort was also an educational partnership with the Sheboygan Area School District fourth and fifth grade curriculum in social studies, math, and science and is expected to create additional programming opportunities at Maywood. You can find out more about this event, educational ties for teachers, and read all about Dave's daily adventures by accessing the Cyber hike Website at:

www.maywoodcyberhike.org
Nice going Dave! ♦

Share PLT/WILD with Educators, Become a Facilitator!

Are you a motivated, well-organized person who cares deeply about the field of environmental education? If you are, here's your chance to join the ranks of over 100 active and enthusiastic educators and become a Project WILD or Project Learning Tree facilitator. A two-day training session will be held on March 5-6,



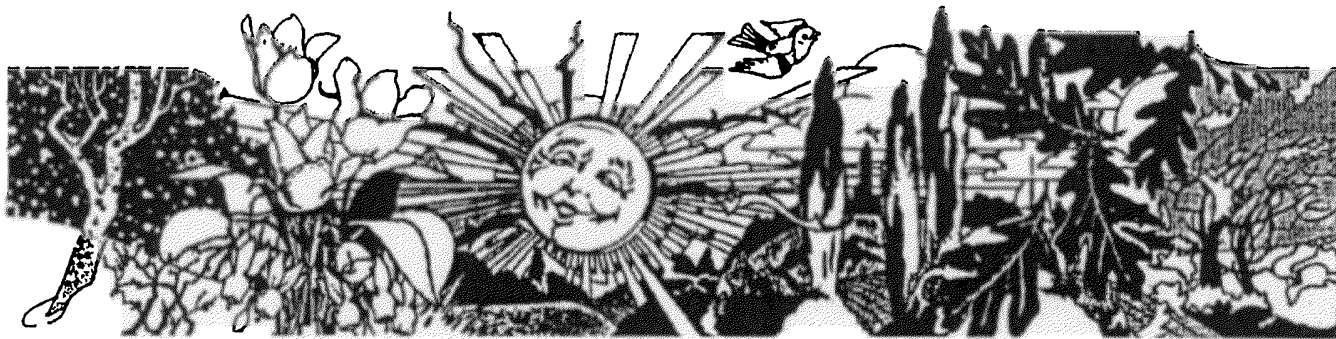
1999 at YMCA Camp Matawa near the Northern Unit of the Kettle Moraine State Forest. It is recommended that you participate in a Project WILD or Project Learning Tree workshop before this facilitator training, however, it is not required. You'll be trained how to effectively advertise, plan for and conduct your own workshops. We will share how to introduce others to the activity guides, teach in an exciting manner, and get others excited about the materials. All participants will receive a complete set of materials. As a facilitator you'll have fun: conducting at least one workshop per year, working directly with the state office in scheduling and planning of workshops, meeting and getting to know natural resource professionals, and participating in and sharing ideas with other facilitators at our annual facilitator training conference held in June. Of course you will have some administrative responsibilities, but what better way to share your enthusiasm for environmental education?

A \$10 registration fee covers all of your meals, lodging and materials. If you are interested in becoming a facilitator, contact the Project WILD or PLT staff. Registration will be limited to 25 persons. Please let us know: your name, organization name, address, phone number, and e-mail address. Here's how to contact us:

Project WILD/PLT Facilitator Training
CE/6, P.O. Box 7921
Madison, WI 53707-7921
(608) 264-6280
e-mail: prescb@dnr.state.wi.us
website: <http://www.dnr.state.wi.us/org/caer/ce/pltwild/> ♦

New Adaptations and Activities

The Dandelion Factory is a new PLT in the City activity adapted from *Tree Factory* that focuses on the dandelion, a common invasive species found in almost all urban environments. Students learn to describe the general structure of a dandelion plant, name the different parts of a plant and describe their functions by acting out the parts of the plant. Please contact Betty Prescott for a copy at 608-264-6280 or e-mail: prescb@dnr.state.wi.us ♦



Calendar

January 8-10. *Study of Wolves* (NR 405/605). Treehaven, Tomahawk, WI. Experience shared learning with other wolf enthusiasts while tracking, studying wolves in the classroom and field, and learning from professionals and members of the Timber Wolf Information Network. One college credit is available through UW-Stevens Point. An additional assignment and tuition fee is required. Cost: \$140/person includes registration and materials, room and board. Contact: Treehaven, W2540 Pickerel Creek Avenue, Tomahawk, WI 54487, 715-453-4106

January 9 & 10. *Snowshoe Building Workshops*. Mosquito Hill Nature Center, New London, WI (8:30 a.m.-5:00 p.m.) Alaskan style snowshoe materials, complete with Bob Maki bindings will be assembled during this two-day workshop. Frames are pre-bent, drilled and varnished but all the hand lacing with neoprene is left for participants. Cost is \$140 per person. Registration is required as soon as possible. Contact Mosquito Hill Nature Center at N3880 Rogers Rd., New London, WI 54961, 920-779-6433.

January 22-24. *WAAE Winter Workshop*. Treehaven, Tomahawk, WI. Join in the snow-filled fun! See registration information on page 13.

January 23. *Toward Harmony with Nature III*. Park Plaza Convention Center, Oshkosh, WI This all-day natural landscaping conference will feature expert speakers in all areas of native landscaping. Exhibitors will include native plant vendors, environmental organizations, book vendors, and landscapers. Sponsored by Fox Valley Area Chapter Wild Ones Natural Landscapers. Cost: \$20 pre-registration, \$25 at the door. For a conference brochure call Carol at 920-233-4853 or write to: Fox Valley Area Wild Ones, P O Box 2103, Appleton, WI 54913, e-mail Woresource@aol.com

January 29-31 *Snowshoe Weaving*. Treehaven, Tomahawk, WI. Experience the traditional art of snowshoe weaving. You'll get a historical look at snowshoeing and hands-on chance to weave your own masterpiece. Each participant will take home one pair of snowshoes. Cost: \$199/person includes materials

and room and board. For more information, contact: Treehaven, W2540 Pickerel Creek Avenue, Tomahawk, WI 54487, 715-453-4106.

January 30-31 *Winter Camping Made Easy*. Mosquito Hill Nature Center, New London, WI. Learn about food preparation, staying warm, animal tracking, modifying your present camping gear for cold weather usage and snowshoeing. Cost: \$40/person or \$70/pair includes registration and three meals. Contact: Mosquito Hill Nature Center, N3880 Rogers Road, New London, WI 54961, 920-779-6433

February 6 and March 6. *Wisconsin K-12 Energy Education Program*. Havenwoods Environmental Awareness Center, Milwaukee Investigate energy efficiency while riding a bicycle. Play a lively game of tag to illustrate energy transfer in a food chain. Conduct a

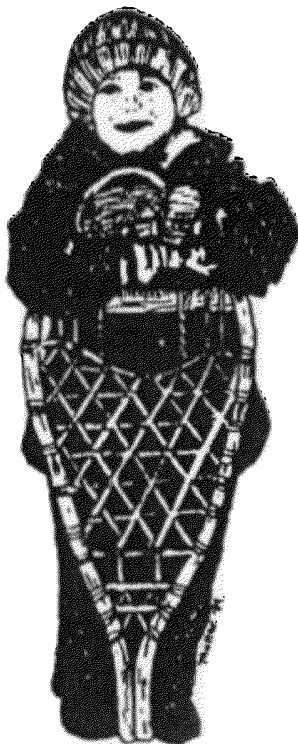
home survey to discover ways to save energy. Discover innovative ways to introduce energy education into your classroom by participating in KEEP. You'll receive a copy of the KEEP activity guide. Cost: free. One University credit available through UW-Stevens Point. Tuition covered by a grant for Milwaukee teachers. Register through UW-SP, 715-346-4770.

February 19-21. *Study of Wolves* (NR 405/605). Treehaven, Tomahawk, WI. Experience shared learning with other wolf enthusiasts while tracking, studying wolves in the classroom and field, and learning from professionals and members of the Timber Wolf Information Network. One college credit is available through UW-Stevens Point. An additional assignment and tuition fee is required. Cost: \$140/person includes registration and materials, room and board. Contact: Treehaven, W2540 Pickerel Creek Avenue, Tomahawk, WI 54487, 715-453-4106.

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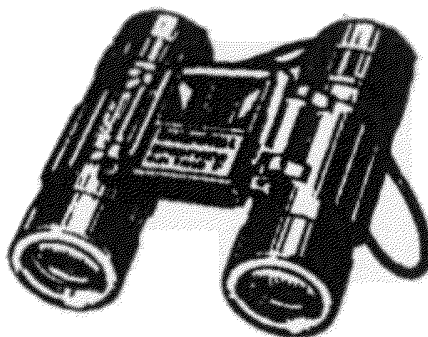
March 12-14 *Study of Wolves* (NR 405/605). Treehaven, Tomahawk, WI. Experience shared learning with other wolf enthusiasts while tracking, studying wolves in the classroom and field, and learning from professionals and members of the Timber Wolf Information Network. One college credit is available through UW-Stevens Point. An additional assignment and tuition fee is required. Cost: \$140/person includes registration and materials, room and board. Contact: Treehaven, W2540 Pickerel Creek Avenue, Tomahawk, WI 54487, 715-453-4106

March 18-20 *Global Environmental Change Education*. UW-Manitowoc, Manitowoc, WI The goal of this workshop is to teach educators how to teach climate and environmental change subjects in their classrooms and to their colleagues. Participants are expected to commit



to conducting a minimum of two education programs within a year following the workshop. This workshop includes discussion of: climate processes and the causes and effects of climate variability; ozone depletion and related increases in ultra-violet radiation; degradation and depletion of resources: declining biodiversity and ecosystem stability; human health and population dynamics. Cost: \$25.00 registration to defray cost of material. These workshops are available for university credit through UW-Stevens Point. Limited funding is available to cover tuition costs, substitute teacher pay or travel costs on a first-come, first-served basis. Contact: Advisory Services Office, UW-Sea Grant Institute, 1800 University Avenue, Madison, WI 53705, 608-262-0645, email: ahmiller@seagrant.wisc.edu

March 26-28. Environmental Education Teaching Methods (NRES 310/510). Amherst Junction, WI. Strategies for teaching K-12 students about the environment will be taught. Environmental issues and resolving environmental problems will be introduced and experienced. Effective educational methodology will be stressed. Meets the DPI certification requirement in environmental education for teachers holding an out-of-state license when taken in conjunction with Geography 339. Certified teachers only. One credit, additional fees for room and board. Contact: UW-Stevens Point Extension-Credit Outreach, 715-346-3838.



April 10. Project WILD. Havenwoods Environmental Awareness Center, Milwaukee. Think spring! Participate in a Project WILD Workshop. Project WILD is an education program focusing on wildlife and environmental education. You'll learn about the program, participate in several activities, and receive two activity guides. Cost \$15. Six DPI clock hours available. Contact: Havenwoods, 414-527-0232.

April 9-11. Wolf Study for Students and Their Teachers. Treehaven, Tomahawk, WI. Wolf study for students is a course in natural resources designed especially for focused groups of high school age students and their teachers or youth leaders. Students will receive outdoor field experiences, including tracking in known wolf territory, along with classroom instruction. Cost: \$130/person includes registration and materials, room and board. Contact: Treehaven, W2540 Pickerel Creek Avenue, Tomahawk, WI 54487, 715-453-4106.

April 28. High School Environmental and Energy Action Conference. Stevens Point, WI. Don't miss this opportunity for you and your students. (See article on page 15.)

April 30-May 2. WAEE Annual Spring Adventure Workshop. Wausau, WI. Mark this day on your calendar and watch for more information in the next issue of *EE News*.

May 7-9. Selected Topics in Natural Resources: Introduction to Birds and Birding. (NRES 405/605) Treehaven Field Station, Tomahawk, WI. Birding is the fastest growing outdoor activity in our nation. Learn a successful and rewarding habitat approach to studying birds in the field. This workshop is designed for beginning bird enthusiasts. Gain first hand knowledge of equipment, identification, observation, field techniques, and resources. Cost: \$125-\$160 for room and board. One credit tuition (UWSP) not included. You may take this course without credit. Commuters are welcome. Contact: Treehaven, W2540 Pickerel Creek Ave., Tomahawk, WI 54487, 715-453-4106. ♦

EE News is published quarterly by the Wisconsin Department of Natural Resources. Its purpose is to provide: up-to-date information about natural resource topics, suggestions for incorporating environmental subjects into teaching, a forum for environmental education networking in the state, and information on environmental education resources and events.

One copy is sent free of charge to every school in Wisconsin. Individual subscription cost is \$5.00/year. Additional donations are welcome. Please make your check payable to *EE News* and send it to the address below. No purchase orders, please.

The editor invites articles, news items, resource suggestions, and letters to the editor for possible publication. Deadlines for submission are:

Spring issue—January 1
Summer issue—March 10
Autumn issue—June 10
Winter issue—September 10

Send to: Editor, *EE News*, DNR Bureau of Communication and Education, P.O. Box 7921, Madison, WI 53707. 608-267-5239, e-mail: morgac@dnr.state.wi.us

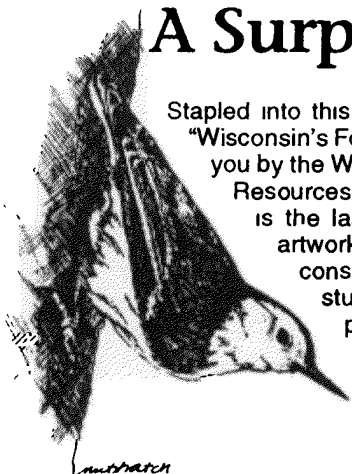
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Viewpoints of authors do not necessarily represent the opinion or policies of the Department of Natural Resources. *EE News* guidelines recognize that diverse viewpoints can prompt constructive dialogue.

Carrie Morgan, managing editor
Janet Hutchens, assistant editor
Jeanne Gornoll, graphic designer

This newsletter is available in alternate format upon request. Please call, Carrie at 608-267-5239.

A Surprise Inside



Stapled into this issue of *EE News* is the new "Wisconsin's Forest Wildlife" poster, brought to you by the Wisconsin Department of Natural Resources' Bureau of Forestry. This poster is the last in a series of posters. The artwork originally appeared in the Wisconsin Wildlife Viewing Guide. Your students can learn all about the plants and animals on this poster by visiting *EEK!*—*Environmental Education for Kids* (<http://www.dnr.state.wi.us/eeek/>), the DNR's Web site for children. ♦

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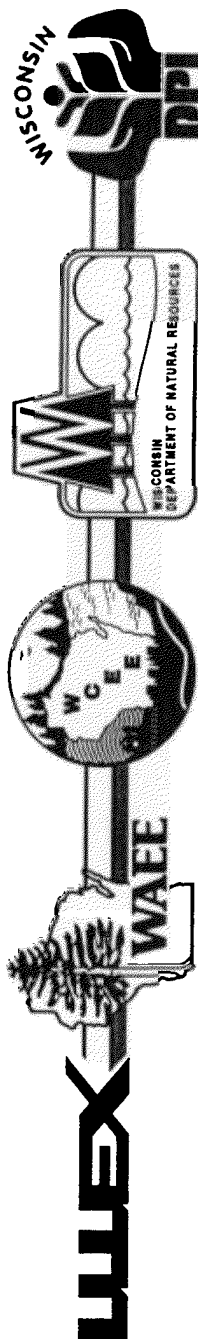
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